

**REMARKS**

Claim 1 has been amended to recite that the blocking layer is located between the electroluminescent layer and the hole-injection or hole-transport layer. Exemplary support for this amendment may be found at paragraph [0008] of the published specification and in Figure 1. Claim 3 has been cancelled without prejudice or disclaimer of the encompassed subject matter. Applicants submit that no prohibited new matter has been introduced by the amendments to claim 1.

1. **Rejection under 35 U.S.C. 103(a)**

A. Tadokoro in view of Umeda

Claims 1, 3, 10, 14 and 16 are rejected as obvious over JP 2000-021577 to Tadokoro et al. ("Tadokoro") in view of JP 2002-208490 to Umeda et al. ("Umeda") for the reasons asserted on pages 3-4 of the Office Action.

Applicants submit that as amended, claim 1 recites a method of forming an OLED element or display having two or more OLED layers, wherein the blocking layer is between an electroluminescent layer and a hole-injection or hole-transport layer. Because both the electroluminescent layer and the hole-injection or hole-transport layer are organic layers (see, e.g., paragraphs [0002] and [0021] of the specification), the blocking layer in claim 1 is positioned between two organic layers. In contrast, Tadokoro describes an insulating layer (which corresponds to the blocking layer of the present application) located between the anode (which comprises a transparent conductive material such as indium-tin oxide (ITO)) and an organic layer. Consequently, Tadokoro may be characterized as teaching a blocking layer located between an inorganic layer and an organic layer. This arrangement of layers is therefore very different from the arrangement of layers recited in claim 1. Because there is no rationale for a person of ordinary skill in the art to attempt to alter the layers in Tadokoro to achieve Applicants' claimed invention, Tadokoro does not render claim 1 obvious. Umeda is not able to correct the deficiencies present in Tadokoro. Accordingly, Applicants respectfully request that this rejection be withdrawn.

Applicants also point out that in the process of claim 1, the blocking layer is applied by printing with an ink. Various printing techniques are recited in claim 10. Such a disclosure is absent in Tadokoro.

In addition, Applicants submit that in the examples of the present application, the layer of the conductive polymer (*i.e.*, PEDOT) is soluble in water and can consequently be processed from solution. The blocking layer and the

electroluminescent layer (*i.e.*, PPV = polyphenylene-vinylene) are also processed from solution. The specification addresses this aspect of Applicants' claimed invention with the statement: "Low cost manufacturing, however, requires printing techniques that take advantage of the solution coatability of OLEDs" (paragraph [0002] of the specification). This advantage is not disclosed in Tadokoro.

B. Tadokoro in view of Umeda and further in view of Pennaz

Claim 2 is rejected as obvious over Tadokoro in view of Umeda and further in view of U.S. Patent 6,922,020 to Pennaz ("Pennaz") for the reasons asserted on page 5 of the Office Action.

As submitted by Applicants in section A above, Tadokoro, either alone or in combination with Umeda, does not render claim 1 obvious. Pennaz, which is relied on by the Examiner for teaching a method of forming an OLED element or display wherein the ink is colored to increase contrast, cannot remedy the deficiencies present in Tadokoro or Umeda. Accordingly, Applicants respectfully request that this rejection be withdrawn.

C. Tadokoro in view of Umeda and further in view of Kawase

Claims 4 and 6 are rejected as obvious over Tadokoro in view of Umeda and further in view of WO 2002/061837 to Kawase ("Kawase") for the reasons asserted on pages 5-6 of the Office Action.

As submitted by Applicants in section A above, Tadokoro, either alone or in combination with Umeda, does not render claim 1 obvious. Kawase, which is relied on by the Examiner for teaching the use of ink-jet printing to form patterns which comprise regions with different densities of discrete points of ink, cannot remedy the deficiencies present in Tadokoro or Umeda. Accordingly, Applicants respectfully request that this rejection be withdrawn.

D. Tadokoro in view of Umeda and Kawase and further in view of Narang

Claim 5 is rejected as obvious over Tadokoro in view of Umeda and Kawase and further in view of U.S. Patent 6,855,378 to Narang ("Narang") for the reasons asserted on page 7 of the Office Action.

As submitted by Applicants in section A above, Tadokoro, either alone or in combination with Umeda, does not render claim 1 obvious. Narang, which is relied on by the Examiner for teaching an ink particle size of 3-50  $\mu\text{m}$ , cannot remedy the

deficiencies present in Tadokoro or Umeda or Kawase. Accordingly, Applicants respectfully request that this rejection be withdrawn.

E. Tadokoro in view of Umeda and further in view of Morii

Claims 7, 8 and 11 are rejected as obvious over Tadokoro in view of Umeda and further in view of U.S. Patent 7,300,686 to Morii ("Morii") for the reasons asserted on pages 7-8 of the Office Action.

As submitted by Applicants in section A above, Tadokoro, either alone or in combination with Umeda, does not render claim 1 obvious. Morii, which is relied on by the Examiner for teaching an insoluble ink and a solvent that that will not re-dissolve the layer beneath it, cannot remedy the deficiencies present in Tadokoro or Umeda. Accordingly, Applicants respectfully request that this rejection be withdrawn.

F. Tadokoro in view of Umeda and further in view of Hyman

Claim 9 is rejected as obvious over Tadokoro in view of Umeda and further in view of U.S. Publication 2003/0035917 to Hyman ("Hyman") for the reasons asserted on page 9 of the Office Action.

As submitted by Applicants in section A above, Tadokoro, either alone or in combination with Umeda, does not render claim 1 obvious. Hyman, which is relied on by the Examiner for teaching a colorant and polymeric binder, cannot remedy the deficiencies present in Tadokoro or Umeda. Accordingly, Applicants respectfully request that this rejection be withdrawn.

G. Tadokoro in view of Umeda and further in view of Murasko

Claims 12 and 13 are rejected as obvious over Tadokoro in view of Umeda and further in view of U.S. Publication 2003/0015962 to Murasko ("Murasko") for the reasons asserted on pages 9-10 of the Office Action.

As submitted by Applicants in section A above, Tadokoro, either alone or in combination with Umeda, does not render claim 1 obvious. Murasko, which is relied on by the Examiner for teaching an ink blocking layer thickness of 100 nm to 100 µm, cannot remedy the deficiencies present in Tadokoro or Umeda. Accordingly, Applicants respectfully request that this rejection be withdrawn.

H. Tadokoro in view of Umeda and further in view of Jagannathan  
Claim 15 is rejected as obvious over Tadokoro in view of Umeda and further  
in view of U.S. Publication 2003/0030706 to Jagannathan ("Jagannathan") for the  
reasons asserted on page 11 of the Office Action.

As submitted by Applicants in section A above, Tadokoro, either alone or in  
combination with Umeda, does not render claim 1 obvious. Jagannathan, which is  
relied on by the Examiner for teaching wetting of the ink that includes a surface  
treatment of the layer on which the ink is deposited, cannot remedy the deficiencies  
present in Tadokoro or Umeda. Accordingly, Applicants respectfully request that this  
rejection be withdrawn.

I. Tadokoro in view of Umeda and further in view of Hanson  
Claim 17 is rejected as obvious over Tadokoro in view of Umeda and further  
in view of U.S. Publication 2003/0035972 to Hanson ("Hanson") for the reasons  
asserted on page 12 of the Office Action.

As submitted by Applicants in section A above, Tadokoro, either alone or in  
combination with Umeda, does not render claim 1 obvious. Hanson, which is relied  
on by the Examiner for teaching an electroluminescent light source using ink printing,  
cannot remedy the deficiencies present in Tadokoro or Umeda. Accordingly,  
Applicants respectfully request that this rejection be withdrawn.

**2. Conclusion**

The foregoing amendments and remarks are being made to place the  
application in condition for allowance. Applicants respectfully request  
reconsideration and timely allowance of the pending claims. Should an interview be  
helpful to further prosecution of this application, the Examiner is invited to telephone  
the undersigned.

If there are any additional fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

MORGAN LEWIS & BOCKIUS LLP

By: /Gregory T. Lowen/  
Gregory T. Lowen  
Reg. No. 46,882

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**Customer No. 09629**  
1111 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004  
Phone: (202) 739-3000  
Facsimile: (202) 739-3001  
Direct: (202) 739-5915